

Big cities are not always biggest polluters

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Researchers examined data from 100 cities in 33 nations for clues about which were the biggest [polluters](#) and why, according to the report in the peer-reviewed journal Environment and Urbanization.

While cities across the world were to blame for around 71 percent of the world's greenhouse gas emissions, urban dwellers who can use public transport rather than drive helped to lower per capita emissions in some cities.

For instance, the sprawling western US city of Denver's per capita emissions were nearly double those in New York City, home to eight million inhabitants and a gritty, heavily used subway system.

"This is mainly attributable to New York's greater density and much lower reliance on the automobile for commuting," said the study.

Even Denver's per capita emissions, at 21.5 tonnes of carbon dioxide equivalent, were sharply higher than Shanghai at 11.2 tCO₂e, Paris (5.2) and Athens (10.4).

Chinese cities stood out from the rest of the world because their average emissions were far higher -- for instance with Beijing emitting 10.1 tonnes of [carbon dioxide](#) equivalent -- than the country as a whole which emits 3.4 tCO₂e.

"This reflects the high reliance on [fossil fuels](#) for [electricity production](#), a significant industrial base within many cities and a relatively poor and large rural population," said the study.

Looking at greenhouse gas emissions per GDP, researchers found that "citizens of Tokyo are 5.6 times more efficient than Canadians."

The port city of Rotterdam in the Netherlands got a particularly bad rap because of its links to shipping and heavy industry.

"Rotterdam's per capita value of 29.8 tCO₂e versus 12.67 tCO₂e for the Netherlands reflects the large impact of the city's port in attracting industry, as well as fuelling of ships," said the study.

"This is similar to cities with busy airports and highlights the need to view the city-based GHG emissions cautiously and holistically."

Other trends included the tendency for cities in cold climates to have higher emissions, and for poor and middle income countries to have lower emissions per capita than wealthy countries.

When researchers looked at cities in Asia, Latin America and Africa, they found low emissions per person across the board.

"This paper reminds us that it is the world's wealthiest cities and their wealthiest inhabitants that cause unsustainable levels of [greenhouse gas emissions](#), not cities in general," said editor David Satterthwaite, a senior fellow at the International Institute for Environment and Development.

"Most cities in Africa, Asia and Latin America have low emissions per person. The challenge for them is to keep these emissions low even as their wealth grows."

An analysis of three neighborhoods in Toronto found that the highest emissions came from the suburbs, where streets are lined with large single family homes that are far from commercial centers.

The lowest levels of emissions came from areas with apartment complexes in walking distance to shopping and transit.

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